Adult Atlantic Salmon *(Salmo salar)* Investigations, Restigouche River System, New Brunswick, 1972-80

J.L. Peppar

Freshwater and Anadromous Division
Fisheries Research Branch
Department of Fisheries and Oceans
Halifax, Nova Scotia, B3J 2S7

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ADULT ATLANTIC SALMON (*SALMO SALAR*) INVESTIGATIONS RESTIGOUCHE RIVER SYSTEM, NEW BRUNSWICK, 1972-80

J.L. Peppar

Freshwater and Anadromous Division
Fisheries Research Branch
Department of Fisheries and Oceans
Halifax, Nova Scotia
B3J 2S7

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CONTENTS

LIST OF TABLES. v

ABSTRACT/RÉSUMÉ vii

INTRODUCTION. 1

METHODS 1

RESULTS AND DISCUSSION. 2
Water Temperatures Recorded at Trap. 2
Relative Size, Timing and Composition of the
Adult Salmon Run. 2
Large Salmon Run. 2
Grilse Run. 2
Total Run 2
Biological Data From Salmon Sampled. 3
Adult Salmon Tagging and Recapture 3
Large Salmon Data 3
Distant-Water Recaptures 3
Home-Water Recaptures. 4
Grilse Data 4
Distant-Water Recaptures 4
Home-Water Recaptures. 5

SUMMARY 5

ACKNOWLEDGEMENTS. 6

REFERENCES. 6

APPENDIX A - HOME-WATER RECAPTURES OF LARGE SALMON TAGGED AND RELEASED IN THE RESTIGOUCHE RIVER SYSTEM 19

APPENDIX B - DISTANT-WATER RECAPTURES OF LARGE SALMON TAGGED AND RELEASED IN THE RESTIGOUCHE RIVER SYSTEM 25

APPENDIX C - HOME-WATER RECAPTURES OF GRILSE TAGGED AND RELEASED IN THE RESTIGOUCHE RIVER SYSTEM 27

APPENDIX D - DISTANT-WATER RECAPTURES OF GRILSE TAGGED AND RELEASED IN THE RESTIGOUCHE RIVER SYSTEM . . 29

APPENDIX E - STATISTICAL DIVISIONS OF THE INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES (ICNAF). 31

APPENDIX F - NEWFOUNDLAND FISHERIES STATISTICAL DISTRICTS. 33

LIST OF TABLES

TABLE 1. Mean maximum water temperatures recorded at the Restigouche sampling trap, Dalhousie, New Brunswick, 1972-80. 7

TABLE 2. Mean minimum water temperatures recorded at the Restigouche sampling trap, Dalhousie, New Brunswick, 1972-80. 7

TABLE 3. Large-salmon catch statistics, Restigouche sampling trap, Dalhousie, New Brunswick, 1972-80 8

TABLE 4. Catches per fishing day of large salmon, Restigouche sampling trap, Dalhousie, New Brunswick, 1972-80. 8

TABLE 5. Percentages of total season catches of large salmon taken during successive semi-monthly periods at Restigouche sampling trap, Dalhousie, New Brunswick, 1972-80 9

TABLE 6. Grilse catch statistics, Restigouche sampling trap, Dalhousie, New Brunswick, 1973-80 9

TABLE 7. Catches per fishing day of grilse, Restigouche sampling trap, Dalhousie, New Brunswick, 1973-80. . 10

TABLE 8. Percentages of total season catches of grilse taken during successive semi-monthly periods at Restigouche sampling trap, Dalhousie, New Brunswick, 1973-80. 10

TABLE 9. Average lengths and weights and sex composition, determined on a semi-monthly basis for large salmon sampled (accidental mortalities only, 1972 & 1977-80) at Restigouche sampling trap, Dalhousie, New Brunswick, during the period 1972-80. 11

TABLE 10. Average lengths and weights and sex composition, determined on a semi-monthly basis for grilse sampled (accidental mortalities only, 1974-80) at Restigouche sampling trap, Dalhousie, New Brunswick, during the period 1973-80. 12

TABLE 11. Scale-data analysis, average fork lengths by sex, for each sea-age group, for samples collected 1972-80, Restigouche sampling trap, Dalhousie, New Brunswick 13

TABLE 12. Scale-data analysis, average weights by sex, for each sea-age group, for samples collected 1972-80, Restigouche sampling trap, Dalhousie, New Brunswick 14

TABLE 13. Restigouche River adult salmon tagging at Dalhousie, 1972-77, and recaptures to January, 1981 15

TABLE 14. Recaptures from Restigouche large salmon (2- and 3-sea-winter fish) tagging, Dalhousie, New Brunswick, 1972-77; tag returns to January, 1981, by year of recapture. 15

TABLE 15. Recaptures from Restigouche River large salmon (2- and 3-sea-winter fish) tagging, Dalhousie, New Brunswick, 1972-77; tag return to January, 1981, by method and year of recapture 16

TABLE 16. Sport-fishing recoveries of large salmon tagged 1972-77 at the Restigouche sampling trap, Dalhousie, New Brunswick; tag returns to January, 1981 17

TABLE 17. Recaptures from Restigouche grilse (1-sea-winter fish) tagging, Dalhousie, New Brunswick, 1973-77; tag returns to January, 1981, by year of recapture 17

TABLE 18. Recaptures from Restigouche River grilse (1-sea-winter fish) tagging, Dalhousie, New Brunswick, 1973-77; tag returns to January, 1981, by method and year of recapture 18

TABLE 19. Sport-fishing recoveries of grilse tagged 1973-77 at the Restigouche sampling trap, Dalhousie, New Brunswick; tag returns to January, 1981 18

ABSTRACT

Peppar, J.L. 1983. Adult Atlantic salmon (Salmo salar) investigations, Restigouche River system, New Brunswick, 1972-80. Can. MS Rep. Fish. Aquat. Sci. No. 1695. viii + 33 p.

Trapping and tagging of ascending adult Atlantic salmon was conducted near the head of the Restigouche River estuary (near Dalhousie, New Brunswick) each year over the period 1972-80. As part of a program of salmon investigations to collect stock-assessment data over the period of the Restigouche commercial salmon-fishing closure, this study provided a basic index of run timing, relative run size and run composition; and assessed, through tagging, the migration routes and sites of potential exploitation by home- and distant-water fisheries. The investigation also enabled the gathering of data on aspects of the basic life history of the salmon.

Key words: Adult Atlantic salmon, Restigouche River, run size, run timing, grilse:large salmon ratios, tagging, recapture, home waters, distant waters, water temperatures, average lengths, average weights, sex composition, sport-fishing recaptures, commercial-fishery recaptures.

RÉSUMÉ

Peppar, J.L. 1983. Adult Atlantic salmon (Salmo salar) investigations, Restigouche River system, New Brunswick, 1972-80. Can. MS Rep. Fish. Aquat. Sci. No. 1695. viii + 33 p.

De 1972 à 1980, on a capturé et marqué, près de la ligne de marée haute dans l'estuaire de la rivière Restigouche (près de Dalhousie, au Nouveau-Brunswick), des saumons atlantiques adultes retournant en eau douce. Cette étude faisait partie d'un programme visant à visant à évaluer la condition du stock pendant la période de fermeture de la pêche commerciale du saumon de la Restigouche. Elle a fourni un indice de base de l'epoque de la remonte, de son abondance relative et de sa composition; le marquage a permis d'évaluer les routes de migration et les sites d'exploitation éventuelle dans les eaux avoisinantes ou lointaines. On a pu aussi, au cours de cette étude, recueillir des données sur certains aspects fondamentaux du cycle de vie des saumons.

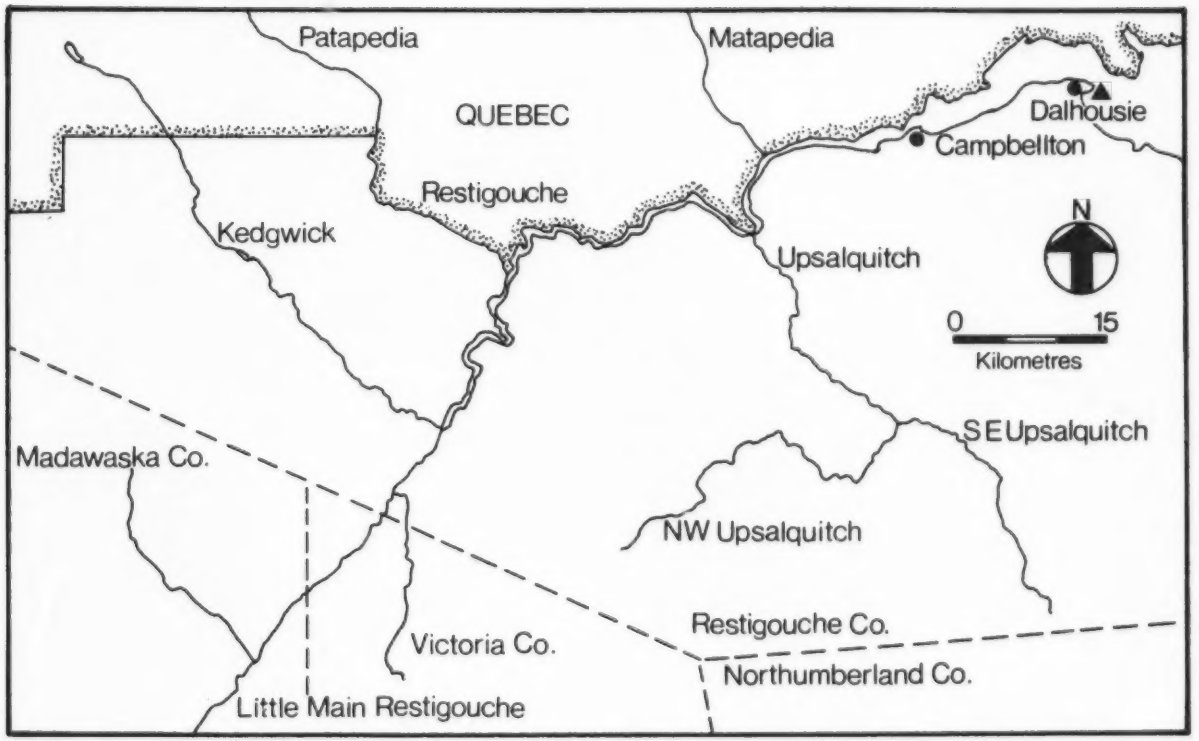

Fig. Map of Restigouche River system, New Brunswick
(▲= Location of adult salmon sampling trap.)

INTRODUCTION

Approximately 20% of the Restigouche River system (Fig.) lies in Quebec and 80% in New Brunswick. This system consists of the main Restigouche River plus four major tributaries: Matapedia (entirely in Quebec), Patapedia (in Quebec and New Brunswick), Upsalquitch (entirely in New Brunswick) and Kedgwick (mostly in New Brunswick). Together, they account for a drainage area of about 10,515 km (4,060 mi^2). The main Restigouche River forms the boundary between the provinces of Quebec and New Brunswick for about 80 km before it enters the sea at the head of Chaleur Bay. About half this length is tidal, and comprises the Restigouche River estuary.

The river is generally regarded as a quality early-run stream, with most of the return migration of adult Atlantic salmon from the sea taking place between May and September; peaks of abundance occur between early June and late July. Before a total commercial salmon-fishing ban and angling restrictions were imposed in 1972, the Restigouche River system was the second-ranking producer of Atlantic salmon in Canada (Wykes and Dunfield 1972). Total commercial landings from Chaleur Bay (Districts 63-65 in New Brunswick and Districts 12-15 in Quebec) were 482,000 lb (219,000 kg) in 1967 and decreased annually to 119,000 lb (54,000 kg) in 1971. It is estimated that the average, yearly commercial catch of Restigouche River large salmon taken by these fisheries over the period 1967-71 was 238,000 lb (108,000 kg) or approximately 19,800 fish. Angling catches averaged about 3,800 fish per year and 4,500 fish per year, over the 10-year periods 1951-60 and 1961-70, respectively. Catches over the period 1968-71 declined rather sharply and averaged about 2,800 fish/year. Since 1972, the angling catch has increased yearly; by 1977, it had reached about 10,000 fish.

Biological information over a period of years before the commercial closure was not available. However, from a study of angling and commercial catches, indications were that the situation with respect to spawning escapements was worsening, as on the Saint John and Miramichi rivers. Thus, in 1972, regulations were introduced to ban commercial fishing in Chaleur Bay and the Restigouche estuary and to reduce the angling fishery.

The Freshwater and Anadromous Division's biological investigations in the Restigouche were initiated in 1972, to provide data necessary to assess effects of the total salmon-fishing closure, to estimate the magnitude of future runs, and to provide advice on lifting of the commercial ban. The following report presents results obtained from the adult salmon enumeration and tagging investigation conducted over the period 1972-80.

This investigation permitted the collection of stock-assessment data, most of which were formerly gathered from the commercial fishery, but were now unavailable due to the closure of this fishery. The study provided a basic index of run timing, relative run size and composition; and in addition, grilse and large salmon were tagged to determine movements and sites of home- and distant-water fisheries exploitation. The study also enabled the gathering of data on aspects of basic life history, such as length, weight, sex and age. Methods employed and results obtained will be presented in much the same manner as at the yearly meetings of the Restigouche River Salmon Management Advisory Committee, 1972-79.

METHODS

During each year of operation, trapping of adult salmon was conducted in the same location, about 315 m south of Bon Ami Rocks, Dalhousie, New Brunswick (48°03'N; 66°21'W) (Fig.). This location was chosen because of its proximity to the head of the Restigouche River estuary and its past reputation as a good commercial-fishing trap-site.

The "trap stand" consisted of four, interconnected, Chaleur Bay spearhead traps (Dunfield 1974), anchored to shore and running out in a staggered line into Bellevue Cove. The whole structure (702 m or 390 fathoms of mesh, traps and associated leaders) was allowed to float, anchored in position offshore, and attached to the shore from the inshore leader.

The traps were originally constructed (1972) of 14.0-cm mesh (allowable commercial mesh size) but, in 1973, mesh size was reduced to 8.9 cm in the traps and increased to 15.2 cm in the leaders. Mesh size in the inshore trap was further reduced in 1975 to 6.4 cm to help reduce the numbers of grilse "meshing". The smaller mesh introduced in 1973 allowed capture of both grilse and large-salmon components of the ascending adult salmon run.

Depths of water at the traps averaged from 2.4 m-4.2 m at the inshore trap to 3.9 m-6.0 m at the farthest offshore trap.

When possible, traps were fished during two hours of falling tide; this facilitated easier handling of the nets. Generally, traps were fished from an offshore to inshore direction. Two boats (dory-style fishing flats) were employed in the fishing and tagging operations. Actual fishing was conducted by one man, who in turn passed dip-netted salmon (one fish at a time) to the tagging crew of two men in the second boat. Each fish was placed in a wooden measuring/tagging box (120 cm length x 28 cm width x 20 cm depth, with attached metre stick), fork and total lengths were recorded, a scale sample was procured and a tag was secured in place. The fish was then released immediately.

Two types of tags were employed:

modified Carlin (blue, oval, 0.5 cm x 1.4 cm) with monofilament tie, and Floy T-bar (green, #20 vinyl tubing) with 2.5-cm double-barbed shaft. A tagging jig, with a single needle of 15-19 gauge, was used to apply the Carlin tags, the size of needle depending on the size of fish being tagged. The Floy tags were applied with a Model FDM-68 tagging gun.

Ages were determined by scale reading. Samples of scales were removed from the left side of each fish, immediately behind to the base of the dorsal fin and 2-3 scale rows above the lateral line. Each scale sample was examined under a binocular microscope, and those scales with suitable (entire) centers were subsequently impressed on acetate slides. To read the scales, a microprojector was employed to project the scale image on a white background. Methods employed in reading the scales and recording the ages followed those presented by Peppar and Pickard (1975), and Pickard and Peppar (1979).

RESULTS AND DISCUSSION

WATER TEMPERATURES RECORDED AT TRAP

Mean maximum and minimum water temperatures recorded at the sampling trap are summarized (Tables 1 and 2). Mean maximum water temperatures ranged from a low of 5.0°C (late May, 1976) to a high of 19.2°C (late June, 1973). Highest mean maximum temperatures were recorded, primarily, over the late June through July period. Mean minimum water temperatures ranged from a low of 1.3°C (late May, 1976), to a high of 15.7°C (early August, 1973). Highest mean minimum temperatures tended to show two peaks, during late June and late July/August.

RELATIVE SIZE, TIMING AND COMPOSITION OF THE ADULT SALMON RUN

Large-Salmon Run

Season catches of large salmon ranged from 1,556 fish (1972) to 762 fish (1979), a nine-year mean of 1,169 (Table 3). These catch statistics are also provided on a catch-per-fishing-day basis (Table 4).

Consecutive-year declining total catches of large salmon were recorded for 1973, 1974, 1976, 1977 and 1979. Increases in catches were recorded in 1975, 1978 and 1980; but none was as great as that taken in 1972 - the first year of the commercial salmon-fishing ban, and the first year of sampling at this location. The lowest catches were obtained in 1974, 1977 and 1979, being in each of these years subsequently lower than that previously recorded.

Excluding 1972 from the comparison (as grilse were not captured in 1972 due to the size of mesh employed), the large-salmon component of the total catch at the trap declined from 78% in 1973 to 53% in 1975. From 1976 to 1978, the large-salmon component of the total catch then increased yearly from 54% to 75% (the 1978 percentage being comparable to that recorded in 1973). The large-salmon component of the catch dropped dramatically in 1979, to 44%, the lowest level recorded in the nine years of sampling. An increase to 68% was recorded in 1980.

With the exception of 1978, the largest catches of large salmon each year were recorded during the latter half of June. Over the years 1972-77 and 1979-80, 42%-53% of the large-salmon run each year was recorded during this period (Table 5). Also, with the exception of 1978, the first half of July provided the second-highest catches of large salmon each year (17%-37%). In 1978, peak periods of the large-salmon run were recorded earlier, with 35% of the total catch taken during the first half of June and 32% during the second half.

Grilse Run

Season catches of grilse ranged from 1,275 fish (1975) to 326 fish (1973) - an eight-year mean of 729 (Table 6). Consecutive-year increasing total catches of grilse were recorded for 1974, 1975, 1978 and 1979. Decreasing total catches were recorded for 1976, 1977 and 1980. These catch statistics are also provided on a catch-per-fishing-day basis (Table 7).

The grilse component of the total catch at the trap increased from 22% in 1973 to 47% in 1975. From 1976 to 1978, the grilse component of the total catch decreased yearly from 46% to 25% (the 1978 percentage being comparable to that recorded in 1973). The grilse component of the catch rose dramatically in 1979, to 56%, the highest level recorded in the years of sampling. A decrease to 32% was recorded in 1980.

With the exception of 1977, the largest catches of grilse each year were recorded during the first half of July. Over the years 1973-76 and 1978-80, 47%-84% of the grilse run was recorded during this period (Table 8). In 1977, the peak of the grilse run was recorded later, with 45% taken during the latter half of July.

Total Run

In general, timings of both grilse and large-salmon components of the Restigouche River adult salmon run were rather consistent over the years of sampling. Largest catches of large salmon were obtained in the late June to mid-July period, with the peak (or highest catch/fishing day) recorded in the latter half of June. Largest catches of grilse were obtained in July, with the peak (or highest catch/fishing day) recorded during the first half of July.

From 1975 to 1978, catch trends of the two components of the adult run were also consistent. Both the grilse and large-salmon runs peaked in 1975, and then showed yearly declining catches to 1977, followed by increases in 1978, especially in the large-salmon component. During the years 1979 and 1980, however, catches of the two components of the total run have not shown this consistent pattern.

BIOLOGICAL DATA FROM SALMON SAMPLED

Average lengths, weights and sex ratios for grilse and large salmon caught each year were derived from samples of fish specifically sacrificed for these data and from accidental mortalities of fish meshed in the traps. Data derived from the salmon tagged and released are not included in these samples. Data obtained from the samples have been summarized on a semi-monthly basis to reflect any differences in average length, weight and sex ratio over the period of the salmon run each year (Tables 9 and 10).

Even though the 1977-80 samples were composed of accidental mortalities (meshed fish) only, and the mesh employed in the traps was likely more selective on the smaller sizes, their average lengths and weights were somewhat higher than those for other years. The large salmon during 1972-76 averaged 80 cm-84 cm fork length and 6 kg-7 kg in weight, and during 1977-80 they averaged 76 cm-88 cm in fork length and 5 kg-8 kg in weight (Table 9). With the exception of the 1972 sample, the large salmon were predominantly female, averaging 66%-73% female over the years 1973-76 and 51%-71% during 1977-80.

Within-year comparisons over the period of the large-salmon run show that large salmon captured early in the season (late May to early June) were larger and generally had a lower percentage of females than those captured during the peak of the run (late June to early July). It is known from the aging of samples (Peppar and Pickard 1975; Peppar, O'Neill and Pickard 1976; Pickard 1979 and Pickard and Peppar 1979) that Restigouche large salmon return from the sea as primarily two- and three-sea-winter maiden (virgin) fish. The remainder return as older maiden fish or as repeat spawners (previously spawned fish). The aging of these samples has confirmed that earlier-running large salmon have a greater proportion of older fish (three-sea-winter and repeat spawners) than do the majority of large salmon entering later.

Grilse samples (1973-80) averaged 52 cm-54 cm in fork length and 1.4 kg-1.6 kg in weight (Table 10). They were predominantly male, averaging 95%-99% over the eight years.

For the years 1972-80, average lengths and weights, by sex, for all aged salmon (Sea-ages 1-3) have been summarized (Tables 11 and 12). Overall average lengths and weights were as follows:

Sea-age	Average fork length (cm)		Average weight (kg)	
	Males	Females	Males	Females
1	53.25	52.01	1.50	1.42
2	77.37	75.68	5.13	4.59
3	94.30	91.50	10.26	9.03

The preceding results show male large salmon and male grilse average longer fork lengths and heavier weights than do females at each sea-age.

ADULT SALMON TAGGING AND RECAPTURE

Totals of 1,512 grilse and 3,928 large salmon were tagged and released over the 1972-77 period (Table 13). Subsequent recaptures to January, 1981, totalled 136 grilse and 478 large salmon - recapture rates of 9.0% and 12.2%, respectively.

Large-Salmon Data

For each tagging year, most large salmon were recaptured within the same year as they were tagged (75%-91%) (Table 14). These recaptures were taken mostly from the angling fisheries, and primarily within the Restigouche River system (Table 15). Sport-fishing recoveries have been detailed for each year of tagging (Table 16).

Details on the home- and distant-water recaptures from large-salmon tagging are summarized by release and recapture dates and locations (Appendices A and B). Recaptures classified as "home water" provided 92% of the total returns over the six years of tagging (Appendix A). These returns came from all areas within the Restigouche River system, Restigouche estuary and other rivers associated with Chaleur Bay. "Distant-water" recaptures provided 8% of the returns (Appendix B). These came primarily from Labrador, "North Shore Quebec" (the north shore of the Gulf of St. Lawrence) and Newfoundland.

Distant-Water Recaptures: Distant-water recaptures of large salmon (39 fish) were recorded from six areas: North Shore Quebec (21%), Labrador (39%), Greenland (5%), Newfoundland (28%), Nova Scotia (3%) and New Brunswick (5%). Ninety percent were recorded one or two years after the year of tagging; the majority (72%) were captured the year following tagging. One recapture was recorded during the same year as tagging (New Brunswick, Miramichi River system), two were recorded three years after tagging (North Shore Quebec and Newfoundland) and one was recorded five years after tagging (Labrador).

Off North Shore Quebec, ICNAF Division 4S (see Appendix E for illustration of ICNAF divisions), the Restigouche salmon were caught throughout July. With two exceptions, these fish were recorded the year following tagging (those two were recorded two and three years after tagging).

Off Labrador, recaptures were recorded from ICNAF Divisions 4R, 2J and 2H in July, August and October. West Greenland recaptures were recorded in Divisions 1B and 1C in late July and September.

The preceding data suggest that these fish were likely "outbound" postspawners, migrating from the Restigouche towards Newfoundland, up its west coast and through the Strait of Belle Isle to the feeding grounds off Labrador or Greenland - similar to the situation recorded for Miramichi tagged adults (Turner 1975).

Recaptures of Restigouche salmon were recorded from ICNAF Division 4R off the west coast of Newfoundland and Divisions 3K and 3L off the east coast. The west coast recaptures were recorded from early June to mid-July and the east coast recaptures from late May to late July (see Appendix F for illustration of Newfoundland Fisheries Statistical Districts). The earliest recaptures (those recorded in May) were taken from the more southerly areas of the east coast, within Division 3L. The timing of the recaptures off Newfoundland would indicate that some of these fish were in a position to return to the Restigouche during the early-run period (i.e., those fish captured off the southern portion of the east coast). For example, a 2-sea-winter salmon tagged June 5, 1976, by the Fisheries and Marine Service, Newfoundland, off Isle aux Morts, Newfoundland, was angled in the Little Main Restigouche River on July 28, 1976. The others would probably either remain at sea for an additional winter or more, or contribute to the Restigouche River's late run. Turner (1975 and 1975) found a similar situation for Miramichi River salmon.

The Nova Scotia recapture was recorded in ICNAF Division 4Vn in mid-June. The timing of this recapture is in line with an early return to the Restigouche.

New Brunswick provided two recaptures, both from the Miramichi River system, in ICNAF Division 4T. One of these recaptures was recorded during the year of tagging (in August) and the other during the year following tagging (in late April).

Home-Water Recaptures: Home-water recaptures of large salmon (439 fish) were recorded from five areas: Restigouche River system (89%), Restigouche River estuary (3%), Gaspé, Quebec (2%), other Chaleur Bay rivers (3%) and unknown (2%). Ninety-one percent were recorded during the same year as tagging. Recaptures during the first (21), second (17), third (1) and fifth (1) years following tagging accounted for the remaining 9%.

Within the Restigouche River system, large-salmon recaptures were recorded throughout the angling season (June-August). The main Restigouche River accounted for the greatest number of returns (56%), followed by the Matapedia River (20%), Upsalquitch River (12%), Kedgwick River (7%), Patapedia River (3%) and the Little Main Restigouche River (3%). Several tags each year (1975-77) were found on dead large salmon, recorded primarily in the main Restigouche and Upsalquitch rivers. These fish (38) large salmon) had been affected by the disease furunculosis, recorded in the system for six consecutive years (1975-80).

Within the Restigouche estuary, large-salmon recaptures were recorded in June, August, September and November. These were made primarily by commercial, Indian and other nets. Gaspé, Quebec, recaptures from the Bonaventure and Grand Cascapedia rivers were recorded during June-August. Most of these were taken in the angling fisheries and the remainder in commercial nets.

Recaptures of large salmon in other Chaleur Bay rivers were recorded in the Charlo River in August and in the Jacquet River, primarily during August-October. The streams of Restigouche County in this area are typically "late-run" and these recaptures were recorded in the angling fisheries, which are allowed to operate later than in the Restigouche River itself.

Grilse Data

For each tagging year, most grilse were recaptured within the same year as they were tagged (80%-96%) (Table 17). These recaptures were taken mostly from the angling fisheries, and primarily within the Restigouche River system (Table 18). Sport-fishing recoveries have been detailed for each year of tagging (Table 19).

Details on home- and distant-water recaptures from grilse tagging are summarized by release and recapture dates and locations (Appendices C and D). Home-water recaptures provided 89% of the total returns over the five years of tagging (Appendix C). These returns came from all areas within the Restigouche River system, and other rivers associated with Chaleur Bay. Distant-water recaptures provided 11% of the returns (Appendix D). These came primarily from Labrador.

Distant-Water Recaptures: Distant-water recaptures of grilse (15 fish) were recorded from three areas: North Shore Quebec (20%), Labrador (60%) and Newfoundland (20%). All recaptures were recorded one or two years after the year of tagging; the majority (80%) were captured the year following tagging.

Off North Shore Quebec, ICNAF Division 4S, the Restigouche grilse were caught in mid-July, the year following tagging. Recaptures off Labrador were recorded from Divisions 4R, 2J and 2H from mid-July to late July and one in September, the year following tagging (one exception). Like the large-salmon data, these data suggest that these fish were "outbound" post-spawners, migrating from the Restigouche towards Newfoundland, up its west coast and through the Strait of Belle Isle to the feeding grounds off Labrador and Greenland.

Recaptures of grilse were recorded from ICNAF Divisions 3K and 3L off the east coast of Newfoundland. Timing of the Newfoundland recaptures varied among areas of recapture. The recapture in Division 3K was recorded in early July, while the more southerly recaptures in Division 3L were recorded in late May and early June. The May recapture was taken two years after it was tagged. Like the large-salmon data, data on the timing of the Restigouche grilse recaptures off Newfoundland (i.e., those fish captured off the southern portion of the east coast) would indicate that some fish were in a position to return to the Restigouche during the early-run period of the current year. The others would probably remain at sea for an additional winter or more, or contribute to the Restigouche River's late run.

Home-Water Recaptures: Home-water grilse recaptures (121 fish) were recorded from two areas: Restigouche River system (88%) and other Chaleur Bay rivers (12%). Ninety-six percent were recorded during the same year as tagging. Recaptures during the first and second years following tagging accounted for the remaining 4%.

Within the Restigouche River system, grilse recaptures were recorded throughout the angling season (June-August). The main Restigouche River accounted for the greatest number of returns (41%), followed by the Upsalquitch River (24%), Matapedia River (17%), Kedgwick River (10%), Little Main Restigouche River (6%) and Patapedia River (3%). A few tags were found on dead grilse in 1976-77 in the main Restigouche and Upsalquitch rivers. These fish (4 grilse) had been affected by furunculosis.

Recaptures of grilse in other Chaleur Bay rivers were recorded during July-October, primarily in streams of Restigouche and Gloucester counties. The streams in this area are typically "late-run" and these recaptures were recorded in the angling fisheries, which are allowed to operate later than in the Restigouche River itself.

SUMMARY

- Trapping and tagging (four, interconnected, Chaleur Bay spearhead traps; modified Carlin and Floy-T-bar tags) of ascending adult Atlantic salmon was conducted near the head of the Restigouche River estuary, 1972-80.
- Season catches of large salmon ranged from 762 to 1,556, a nine-year mean of 1,169.
- Largest catches of large salmon were obtained in the late June to mid-July period; run peaks were recorded (1978 an exception) during the latter half of June.
- Season catches of grilse ranged from 326 to 1,275, an eight-year mean of 729.
- Largest catches of grilse were obtained in July; run peaks were recorded (1977 an exception) during the first half of July.
- Aging results showed male large salmon to average a longer fork length and heavier weight than female large salmon, at both sea-ages (2- and 3-sea-winter).
- Aging results also showed male grilse to average a longer fork length and heavier weight than female grilse.
- Totals of 1,512 grilse and 3,928 large salmon were tagged and released during 1972-77; recaptures totalled 136 grilse (9.0%) and 478 large salmon (12.2%).
- Recaptures of large salmon within the same year as they were tagged provided 75%-91% of the returns each year, mostly from angling fisheries within the Restigouche River system; home-water recaptures provided 92% of the total returns; the remaining 8% were taken in distant-waters.
- Distant-water recaptures of large salmon (39 fish) were recorded from: North Shore Quebec (21%), Labrador (39%), West Greenland (5%), Newfoundland (28%), Nova Scotia (3%) and New Brunswick (5%); 90% of these were recorded one or two years after the year of tagging (the majority, 72%, the year following tagging).
- Home-water recaptures of large salmon (439 fish) were recorded from: Restigouche River system (89%), Restigouche River estuary (3%), Gaspé, Quebec (2%), other Chaleur Bay rivers (3%) and unknown (2%); 91% of these were recorded during the same year as tagging.
- Recaptures of grilse within the same year as they were tagged provided 80%-96% of the returns each year; mostly from angling fisheries within the Restigouche River system; home-water recaptures provided 89% of the total returns, the remaining 11% were taken in distant-waters.
- Distant-water recaptures of grilse (15 fish) were recorded from: North Shore Quebec (20%), Labrador (60%) and Newfoundland (20%); all recaptures

were recorded one or two years after the year of tagging (the majority, 80%, the year following tagging).

- Home-water recaptures of grilse (121 fish) were recorded from: Restigouche River system (88%) and other Chaleur Bay rivers (12%); 96% of these were recorded during the same year as tagging.

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TABLE 1. Mean maximum water temperatures recorded at the Restigouche sampling trap, Dalhousie, New Brunswick, 1972-80.

Semi-monthly period	Mean maximum temperature (°C)								
	1972	1973	1974	1975	1976	1977	1978	1979	1980
16-31 May	-	-	9.3	7.5	5.0	-	-	8.6	-
1-15 Jun	11.8	14.5	12.1	9.4	5.7	9.8	10.7	12.0	10.2
16-30 Jun	17.0	19.2	14.6	10.2	9.7	13.6	10.6	12.3	12.2
1-15 Jul	16.5	18.1	14.4	15.9	-	9.0	13.4	12.3	12.1
16-31 Jul	16.8	18.4	17.3	11.8	-	11.7	15.0	15.8	15.3
1-15 Aug	15.5	17.8	13.7	15.3	-	12.8	13.6	13.0	-
16-31 Aug	14.3	16.8	14.2	11.3	15.4	11.9	13.7	10.7	-
1-15 Sep	-	13.6	12.6	10.6	-	-	-	-	-
16-30 Sep	-	11.1	10.1	8.7	-	-	-	-	-
1-15 Oct	-	-	7.1	6.8	-	-	-	-	-
16-31 Oct	-	-	4.2	-	-	-	-	-	-

TABLE 2. Mean minimum water temperatures recorded at the Restigouche sampling trap, Dalhousie, New Brunswick, 1972-80.

Semi-monthly period	Mean minimum temperature (°C)								
	1972	1973	1974	1975	1976	1977	1978	1979	1980
16-31 May	-	-	4.5	4.3	1.3	-	-	7.2	-
1-15 Jun	8.4	9.0	7.7	7.8	1.6	7.4	7.1	5.8	7.2
16-30 Jun	13.1	14.8	10.6	6.3	5.9	10.4	7.6	8.0	8.8
1-15 Jul	10.9	13.1	11.3	13.2	-	5.7	9.5	8.8	10.3
16-31 Jul	11.7	14.0	14.0	8.5	-	9.9	12.2	12.8	10.2
1-15 Aug	12.2	15.7	8.5	12.9	-	9.2	10.7	10.1	-
16-31 Aug	11.0	13.9	12.9	9.5	13.1	10.4	12.5	9.8	-
1-15 Sep	-	11.4	10.9	9.7	-	-	-	-	-
16-30 Sep	-	8.6	9.0	8.2	-	-	-	-	-
1-15 Oct	-	-	5.9	6.2	-	-	-	-	-
16-31 Oct	-	-	3.9	-	-	-	-	-	-

TABLE 3. Large-salmon catch statistics, Restigouche sampling trap, Dalhousie, New Brunswick, 1972-80.

Semi-monthly period	Large salmon, catch/period								
	1972	1973	1974	1975	1976	1977	1978	1979	1980
1-15 May	-	0	-	0	0	1	1	1	3
16-31 May	4	5	4	24	26	23	54	13	18
1-15 Jun	81	385	127	115	177	116	519	135	163
16-30 Jun	808	496	419	653	524	443	482	317	509
1-15 Jul	555	252	348	502	448	141	338	217	360
16-31 Jul	102	22	44	103	64	83	91	74	14
1-15 Aug	3	3	3	10	9	28	1	5	6
16-31 Aug	3	0	0	6	1	7	7	0	0
1-15 Sep	-	3	0	11	-	-	-	-	-
16-30 Sep	-	4	3	6	-	-	-	-	-
1-15 Oct	-	-	1	0	-	-	-	-	-
16-31 Oct	-	-	1	-	-	-	-	-	-
Totals	1,156	1,170	950	1,430	1,249	842	1,493	762	1,073
Total number of days fished	69	114	127	125	89	91	93	96	95

TABLE 4. Catches per fishing day of large salmon, Restigouche sampling trap, Dalhousie, New Brunswick, 1972-80.

Semi-monthly period	Large salmon, catch/fishing day								
	1972	1973	1974	1975	1976	1977	1978	1979	1980
1-15 May	-	0.0	-	0.0	0.0	0.5	0.3	0.3	0.8
16-31 May	2.0	0.4	0.4	1.9	2.0	1.8	3.9	0.9	1.3
1-15 Jun	6.8	29.6	10.6	14.4	13.6	10.6	43.3	10.4	13.6
16-30 Jun	67.3	38.2	41.9	50.2	40.3	36.9	37.1	24.4	39.2
1-15 Jul	42.7	21.0	29.0	38.6	40.7	10.9	26.0	18.1	27.7
16-31 Jul	9.3	1.6	3.1	7.4	4.6	6.4	7.0	5.3	1.0
1-15 Aug	0.3	0.3	0.2	0.8	0.8	2.2	0.1	0.4	0.5
16-31 Aug	0.3	0.0	0.0	0.5	0.1	0.5	0.5	0.0	0.0
1-15 Sep	-	0.3	0.0	0.9	-	-	-	-	-
16-30 Sep	-	0.3	0.3	0.5	-	-	-	-	-
1-15 Oct	-	-	0.1	0.0	-	-	-	-	-
16-31 Oct	-	-	0.1	-	-	-	-	-	-

TABLE 5. Percentages of total season catches of large salmon taken during successive semi-monthly periods at Restigouche sampling trap, Dalhousie, New Brunswick, 1972-80.

Semi-monthly period	Large salmon, percentage/period								
	1972	1973	1974	1975	1976	1977	1978	1979	1980
1-15 May	-	0.0	-	0.0	0.0	0.1	0.1	0.1	0.3
16-31 May	0.3	0.4	0.4	1.7	2.1	2.7	3.6	1.7	1.7
1-15 Jun	5.2	32.9	13.4	8.0	14.2	13.8	34.8	17.7	15.2
16-30 Jun	51.9	42.4	44.1	45.7	42.0	52.6	32.3	41.6	47.4
1-15 Jul	35.7	21.5	36.6	35.1	35.9	16.8	22.6	28.5	33.6
16-31 Jul	6.6	1.9	4.6	7.2	5.1	9.9	6.1	9.7	1.3
1-15 Aug	0.2	0.3	0.3	0.7	0.7	3.3	0.1	0.7	0.6
16-31 Aug	0.2	0.0	0.0	0.4	0.1	0.8	0.5	0.0	0.0
1-15 Sep	-	0.3	0.0	0.8	-	-	-	-	-
16-30 Sep	-	0.3	0.3	0.4	-	-	-	-	-
1-15 Oct	-	-	0.1	0.0	-	-	-	-	-
16-31 Oct	-	-	0.1	-	-	-	-	-	-

TABLE 6. Grilse catch statistics, Restigouche sampling trap, Dalhousie, New Brunswick, 1973-80. (Grilse not captured in 1972.)

Semi-monthly period	Grilse, catch/period							
	1973	1974	1975	1976	1977	1978	1979	1980
1-15 May	0	-	0	0	0	0	0	0
16-31 May	0	0	0	0	0	0	0	0
1-15 Jun	2	0	0	2	2	0	0	2
16-30 Jun	33	61	277	116	92	103	182	51
1-15 Jul	184	434	676	647	142	316	451	414
16-31 Jul	94	181	256	263	215	86	270	25
1-15 Aug	9	12	39	56	20	1	51	3
16-31 Aug	0	2	10	3	6	4	7	1
1-15 Sep	4	6	7	-	-	-	-	-
16-30 Sep	0	3	7	-	-	-	-	-
1-15 Oct	-	1	3	-	-	-	-	-
16-31 Oct	-	0	-	-	-	-	-	-
Totals	326	700	1,275	1,087	477	510	961	496
Total number of days fished	114	127	125	89	91	93	96	95

TABLE 7. Catches per fishing day of grilse, Restigouche sampling trap, Dalhousie, New Brunswick, 1973-80. (Grilse not captured in 1972.)

Semi-monthly period	Grilse, catch/fishing day							
	1973	1974	1975	1976	1977	1978	1979	1980
1-15 May	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0
16-31 May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1-15 Jun	0.2	0.0	0.0	0.2	0.2	0.0	0.0	0.2
16-30 Jun	2.5	6.1	21.3	8.9	7.7	7.9	14.0	3.9
1-15 Jul	15.3	36.2	52.0	58.8	10.9	24.3	37.6	31.9
16-31 Jul	6.7	12.9	18.3	18.8	16.5	6.6	19.3	1.8
1-15 Aug	0.8	0.9	3.0	5.1	1.5	0.1	3.9	0.3
16-31 Aug	0.0	0.2	0.8	0.3	0.4	0.3	0.5	0.1
1-15 Sep	0.4	0.6	0.5	-	-	-	-	-
16-30 Sep	0.0	0.3	0.6	-	-	-	-	-
1-15 Oct	-	0.1	0.3	-	-	-	-	-
16-31 Oct	-	0.0	-	-	-	-	-	-

TABLE 8. Percentages of total season catches of grilse taken during successive semi-monthly periods at Restigouche sampling trap, Dalhousie, New Brunswick, 1973-80. (Grilse not captured in 1972.)

Semi-monthly period	Grilse, percentage/period							
	1973	1974	1975	1976	1977	1978	1979	1980
1-15 May	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0
16-31 May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1-15 Jun	0.6	0.0	0.0	0.2	0.4	0.0	0.0	0.4
16-30 Jun	10.1	8.7	21.7	10.7	19.3	20.2	18.9	10.3
1-15 Jul	56.4	62.0	53.0	59.5	29.8	62.0	46.9	83.5
16-31 Jul	28.8	25.9	20.1	24.2	45.1	16.9	28.1	5.0
1-15 Aug	2.8	1.7	3.1	5.2	4.2	0.2	5.3	0.6
16-31 Aug	0.0	0.3	0.8	0.3	1.3	0.8	0.7	0.2
1-15 Sep	1.2	0.9	0.6	-	-	-	-	-
16-30 Sep	0.0	0.4	0.6	-	-	-	-	-
1-15 Oct	-	0.1	0.2	-	-	-	-	-
16-31 Oct	-	0.0	-	-	-	-	-	-

TABLE 9. Average lengths and weights and sex composition, determined on a semi-monthly basis for large salmon sampled (accidental mortalities only, 1972 & 1977-80) at Restigouche sampling trap, Dalhousie, New Brunswick, during the period 1972-80.

Year	Size and sex composition	Semi-monthly means: May 16-31	June 1-15	June 16-30	July 1-15	July 16-31	August 1-15	August 16-31	September 1-15	September 16-30	October 1-15	October 16-31	Annual means	Sample size
1972	F.L. (cm)	-	89.5	79.4	78.3	79.4	-	-	-	-	-	-	79.7	223
	Wt. (kg)	-	8.8	6.8	-	-	-	-	-	-	-	-	7.0	120
	% females	-	66.7	39.6	50.0	46.7	-	-	-	-	-	-	43.5	223
1973	F.L. (cm)	-	83.1	80.6	80.3	73.8	85.0	-	-	75.2	-	-	81.1	129
	Wt. (kg)	-	6.6	5.9	5.5	4.0	5.2	-	-	4.1	-	-	6.0	129
	% females	-	64.6	67.4	84.0	83.3	100.0	-	-	100.0	-	-	71.0	124
1974	F.L. (cm)	-	92.6	82.8	78.0	77.8	-	-	-	-	-	78.0	81.9	146
	Wt. (kg)	-	9.8	6.2	4.9	5.0	-	-	-	-	-	4.1	6.1	146
	% females	-	52.6	69.4	66.7	76.9	-	-	-	-	-	0.0	66.4	146
1975	F.L. (cm)	88.7	93.2	82.1	81.1	80.3	85.0	90.3	-	75.0	-	-	83.7	172
	Wt. (kg)	8.3	9.7	6.0	5.7	5.3	5.9	7.7	-	4.1	-	-	6.5	172
	% females	33.3	77.8	72.1	70.0	100.0	50.0	100.0	-	100.0	-	-	73.3	172
1976	F.L. (cm)	-	87.1	80.6	81.4	79.1	63.5	-	-	-	-	-	81.8	147
	Wt. (kg)	-	7.9	5.9	6.0	5.4	2.7	-	-	-	-	-	6.2	147
	% females	-	53.9	66.1	75.5	54.6	0.0	-	-	-	-	-	65.8	146
1977	F.L. (cm)	-	83.7	75.3	71.1	75.1	88.0	-	-	-	-	-	76.0	62
	Wt. (kg)	-	7.0	4.7	3.6	4.3	6.3	-	-	-	-	-	4.9	62
	% females	-	40.0	69.7	92.3	100.0	0.0	-	-	-	-	-	71.0	62
1978	F.L. (cm)	-	83.8	80.6	79.5	83.9	-	-	-	-	-	-	82.3	93
	Wt. (kg)	-	6.9	5.8	4.8	6.4	-	-	-	-	-	-	6.2	93
	% females	-	60.4	56.7	63.6	100.0	-	-	-	-	-	-	61.3	93
1979	F.L. (cm)	95.3	93.5	84.9	85.0	80.1	-	-	-	-	-	-	87.7	34
	Wt. (kg)	11.0	10.1	6.7	6.8	5.4	-	-	-	-	-	-	7.9	34
	% females	50.0	72.7	62.5	100.0	50.0	-	-	-	-	-	-	64.7	34
1980	F.L. (cm)	-	85.9	83.7	81.1	96.0	-	-	-	-	-	-	84.1	49
	Wt. (kg)	-	8.1	6.9	5.7	9.9	-	-	-	-	-	-	7.1	49
	% females	-	53.3	47.8	60.0	0.0	-	-	-	-	-	-	51.0	49

TABLE 10. Average lengths and weights and sex composition, determined on a semi-monthly basis for grilse sampled (accidental mortalities only, 1974–80) at Restigouche sampling trap, Dalhousie, New Brunswick, during the period 1973–1980.

Year	Size and sex composition	Semi-monthly means								Annual means	Sample size
		June		July		August		September			
		1–15	16–30	1–15	16–31	1–15	16–31	1–15	16–30		
1973	F.L. (cm)	-	51.7	53.1	53.8	53.3	-	-	-	52.8	87
	Wt. (kg)	-	1.5	1.6	1.6	1.5	-	-	-	1.5	87
	% females	-	10.0	2.2	0.0	33.3	-	-	-	5.4	74
1974	F.L. (cm)	-	53.3	54.2	54.9	56.0	48.0	50.0	55.0	54.2	342
	Wt. (kg)	-	1.6	1.6	1.6	1.8	0.9	1.1	1.4	1.6	342
	% females	-	5.0	2.8	4.8	0.0	0.0	0.0	0.0	3.5	342
1975	F.L. (cm)	-	52.5	53.0	53.1	54.5	51.5	-	-	52.8	248
	Wt. (kg)	-	1.5	1.5	1.5	1.5	1.4	-	-	1.5	248
	% females	-	5.8	1.8	11.1	0.0	0.0	-	-	4.4	248
1976	F.L. (cm)	50.0	53.5	53.1	54.0	55.3	-	-	-	53.4	286
	Wt. (kg)	1.2	1.5	1.4	1.4	1.6	-	-	-	1.4	286
	% females	0.0	2.7	0.6	3.0	0.0	-	-	-	1.4	286
1977	F.L. (cm)	53.0	52.3	52.3	54.0	54.5	52.0	-	-	52.6	117
	Wt. (kg)	1.4	1.5	1.4	1.5	1.5	1.4	-	-	1.5	117
	% females	0.0	0.0	2.6	0.0	0.0	0.0	-	-	0.9	117
1978	F.L. (cm)	-	52.5	53.6	54.6	57.0	55.0	-	-	53.5	120
	Wt. (kg)	-	1.4	1.4	1.4	1.8	1.6	-	-	1.4	120
	% females	-	0.0	0.0	0.0	0.0	100.0	-	-	0.8	120
1979	F.L. (cm)	-	51.1	52.4	53.5	52.0	47.0	-	-	52.3	222
	Wt. (kg)	-	1.3	1.4	1.5	1.4	0.9	-	-	1.4	222
	% females	-	3.6	2.8	1.8	0.0	0.0	-	-	2.7	222
1980	F.L. (cm)	55.0	52.2	53.3	53.0	-	-	-	-	53.1	81
	Wt. (kg)	1.6	1.4	1.6	1.4	-	-	-	-	1.5	81
	% females	0.0	0.0	3.3	0.0	-	-	-	-	2.5	81

TABLE 11. Scale-data analysis, average fork lengths by sex, for each sea-age group, for samples collected 1972-80, Restigouche sampling trap, Dalhousie, New Brunswick. (Grilse not sampled in 1972.)

Year of sample	Sea-age (yr)	Males			Females		
		No. of fish	Average fork length (cm)	SD	No. of fish	Average fork length (cm)	SD
1972	1	0	-	-	0	-	-
	2	108	75.75	4.02	41	73.20	4.33
	3	15	90.67	4.26	54	89.43	3.26
1973	1	70	52.75	2.64	4	50.88	2.72
	2	32	77.47	4.79	49	76.16	4.25
	3	2	92.00	5.66	37	89.66	3.63
1974	1	330	54.32	2.64	12	51.63	2.27
	2	34	78.10	4.94	66	76.03	4.82
	3	10	94.90	4.58	29	93.17	3.18
1975	1	236	52.78	2.47	11	53.55	2.67
	2	39	79.85	3.85	71	76.90	4.85
	3	6	95.33	4.19	43	93.51	3.91
1976	1	283	53.46	2.98	4	50.63	2.06
	2	37	78.78	4.96	61	76.39	4.18
	3	1	96.50	-	28	93.16	4.09
1977	1	116	52.62	2.52	0	-	-
	2	14	75.07	6.23	41	73.07	5.60
	3	4	97.00	1.83	3	92.00	1.00
1978	1	119	53.45	2.52	1	55.00	-
	2	32	78.09	3.57	32	76.41	4.51
	3	1	95.00	-	25	92.58	3.69
1979	1	216	52.32	2.49	6	51.83	1.47
	2	6	77.92	3.98	3	73.33	4.16
	3	6	96.67	4.84	18	89.53	2.95
1980	1	78	53.07	2.74	2	50.00	0.00
	2	17	77.50	4.02	16	76.78	4.36
	3	4	99.00	4.83	5	92.80	2.17
Overall	1	1,448	53.25	2.73	40	52.01	2.44
	2	319	77.37	4.57	380	75.68	4.81
	3	49	94.30	4.86	242	91.50	3.92

TABLE 12. Scale-data analysis, average weights by sex, for each sea-age group, for samples collected 1972-80, Restigouche sampling trap, Dalhousie, New Brunswick. (Grilse not sampled in 1972.)

Year of sample	Sea-age (yr)	Males			Females		
		No. of fish	Average weight (kg)	SD	No. of fish	Average weight (kg)	SD
1972	1	0	-	-	0	-	-
	2	54	5.48	0.90	15	5.28	1.42
	3	9	8.90	1.49	37	9.40	1.37
1973	1	70	1.55	0.22	4	1.29	0.28
	2	32	5.05	0.95	49	4.72	0.86
	3	2	8.89	1.44	37	8.20	1.51
1974	1	330	1.60	0.26	12	1.36	0.19
	2	34	4.82	1.04	66	4.46	0.95
	3	10	10.08	1.50	29	9.06	1.15
1975	1	236	1.52	0.24	11	1.63	0.27
	2	39	5.27	0.84	71	4.71	1.07
	3	6	10.50	1.41	43	9.08	1.34
1976	1	283	1.45	0.29	4	1.29	0.22
	2	37	5.22	1.39	61	4.62	0.82
	3	1	11.70	0.00	28	9.63	1.36
1977	1	116	1.46	0.22	0	-	-
	2	14	4.34	1.11	41	4.06	1.10
	3	4	11.25	1.16	3	9.60	0.52
1978	1	119	1.41	0.24	1	1.57	-
	2	32	5.05	0.79	32	4.60	0.99
	3	1	9.90	-	25	9.27	1.41
1979	1	216	1.41	0.25	6	1.39	0.09
	2	6	4.88	0.60	3	3.90	0.52
	3	6	11.18	2.32	18	8.15	0.92
1980	1	78	1.51	0.28	2	1.12	0.00
	2	17	5.11	0.67	16	4.92	0.96
	3	4	11.48	2.03	5	10.08	0.93
Overall	1	1,448	1.50	0.26	40	1.42	0.24
	2	265	5.13	1.01	354	4.59	1.01
	3	43	10.26	1.77	225	9.03	1.40

TABLE 13. Restigouche River adult salmon tagging at Dalhousie, 1972-77, and recaptures to January, 1981.

Tagging year	Tagged/released (No.)		Recaptures			
			Grilse		Large salmon	
	Grilse	Large salmon	No.	Percent	No.	Percent
1972	0	447	0	-	90	20.1
1973	48	557	6	12.5	96	17.2
1974	115	580	12	10.4	71	12.2
1975	674	1,031	38	5.6	102	9.9
1976	432	784	55	12.7	76	9.7
1977	243	529	25	10.3	43	8.1
Totals	1,512	3,928	136	9.0	478	12.2

TABLE 14. Recaptures from Restigouche large-salmon (2- and 3-sea-winter fish) tagging, Dalhousie, New Brunswick, 1972-77; tag returns to January, 1981, by year of recapture.

Tagging year	Numbers and percentages of total recaptures														Totals
	1972		1973		1974		1975		1976		1977		1978		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
1972	72	80.0	10	11.1	6	6.7	1	1.1	0	0.0	1	1.1	0	0.0	90
1973			85	88.5	5	5.2	5	5.2	0	0.0	0	0.0	1	1.0	96
1974					53	74.7	10	14.1	7	9.9	1	1.4	0	0.0	71
1975							86	84.3	12	11.8	3	2.9	1	1.0	102
1976									65	85.5	8	10.5	3	4.0	76
1977											39	90.7	4	9.3	43
Totals	72		95		64		102		84		52		9		478

TABLE 15. Recaptures from Restigouche River large salmon (2- and 3-sea-winter fish) tagging, Dalhousie, New Brunswick, 1972-77; tag returns to January, 1981, by method and year of recapture.

Tagging year	Method of recapture	Numbers recaptured							Totals
		1972	1973	1974	1975	1976	1977	1978	
1972	Angling	72	4	4	0	0	1	0	80
	Commercial nets	0	6	1	1	0	0	0	8
	Other	1	0	1	0	0	0	0	2
	Total	72	10	6	1	0	1	0	90
1973	Angling		81	4	4	0	0	0	89
	Commercial nets		1	1	1	0	0	1	4
	Other		3	0	0	0	0	0	3
	Total		85	5	5	0	0	1	96
1974	Angling			48	5	4	1	0	58
	Commercial nets			2	5	3	0	0	10
	Other			3	0	0	0	0	3
	Total			53	10	7	1	0	71
1975	Angling				79	2	1	0	82
	Commercial nets				7	10	2	1	20
	Other				0	0	0	0	0
	Total				86	12	3	1	102
1976	Angling					63	6	1	70
	Commercial nets					2	2	2	6
	Other					0	0	0	0
	Total					65	8	3	76
1977	Angling						38	0	38
	Commercial nets						1	4	5
	Other						0	0	0
	Total						39	4	43

TABLE 16. Sport-fishing recoveries of large salmon tagged 1972-77 at the Restigouche sampling trap, Dalhousie, New Brunswick; tag returns to January, 1981.

Recovery location (river)	Large-salmon recoveries											
	1972		1973		1974		1975		1976		1977	
	No.	% of total	No.	% of total	No.	% of total	No.	% of total	No.	% of total	No.	% of total
Bonaventure	0	0.0	2	2.5	0	0.0	0	0.0	0	0.0	0	0.0
Grand Cascapedia	0	0.0	0	0.0	0	0.0	3	3.8	1	1.6	0	0.0
Jacquet	0	0.0	0	0.0	1	2.1	6	7.6	2	3.2	2	5.3
Charlo	0	0.0	0	0.0	0	0.0	0	0.0	1	1.6	0	0.0
Restigouche estuary	0	0.0	0	0.0	0	0.0	0	0.0	2	3.2	0	0.0
Main Restigouche	43	60.6	39	48.2	21	43.8	39	49.4	29	46.0	19	50.0
Matapedia	13	18.3	15	18.5	10	20.8	14	17.7	13	20.6	7	18.4
Upsalquitch	2	2.8	7	8.6	11	22.9	8	10.1	10	15.9	8	21.1
Patapedia	3	4.2	2	2.5	2	4.2	1	1.3	1	1.6	1	2.6
Kedgwick	6	8.5	13	16.1	1	2.1	5	6.3	1	1.6	1	2.6
Little M. Restigouche	3	4.2	3	3.7	1	2.1	3	3.8	0	0.0	0	0.0
Cains	0	0.0	0	0.0	0	0.0	0	0.0	1	1.6	0	0.0
Unknown	1	1.4	0	0.0	1	2.1	0	0.0	2	3.2	0	0.0
Totals recaptured	71	100.0	81	100.0	48	100.0	79	100.0	63	100.0	38	100.0

TABLE 17. Recaptures from Restigouche grilse (1-sea-winter fish) tagging, Dalhousie, New Brunswick, 1973-77; tag returns to January, 1981, by year of recapture.

Tagging year	Numbers and percentages of total recaptures												Totals
	1973		1974		1975		1976		1977		1978		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
1973	5	83.3	0	0.0	1	16.7	0	0.0	0	0.0	0	0.0	6
1974			10	83.3	1	8.3	1	8.3	0	0.0	0	0.0	12
1975					33	86.8	3	7.9	2	5.3	0	0.0	38
1976							44	80.0	11	20.0	0	0.0	55
1977									24	96.0	1	4.0	25
Totals	5		10		35		48		37		1		136

TABLE 18. Recaptures from Restigouche River grilse (1-sea-winter fish) tagging, Dalhousie, New Brunswick, 1973-77; tag returns to January, 1981, by method and year of recapture.

Tagging year	Method of recapture	Numbers recaptured 1973	1974	1975	1976	1977	1978	Totals
1973	Angling	5	-	-	-	-	-	5
	Commercial nets	-	-	1	-	-	-	1
	Other	-	-	-	-	-	-	-
	Total	5	-	1	-	-	-	6
1974	Angling		10	1	-	-	-	11
	Commercial nets		-	-	1	-	-	1
	Other		-	-	-	-	-	-
	Total		10	1	1	-	-	12
1975	Angling			32	1	-	-	33
	Commercial nets			1	2	2	-	5
	Other			-	-	-	-	-
	Total			33	3	2	-	38
1976	Angling				42	3	-	45
	Commercial nets				2	8	-	10
	Other				-	-	-	-
	Total				44	11	-	55
1977	Angling					21	-	21
	Commercial nets					3	1	4
	Other					-	-	-
	Total					24	1	25

TABLE 19. Sport-fishing recoveries of grilse tagged 1973-77 at the Restigouche sampling trap, Dalhousie, New Brunswick; tag returns to January, 1981.

Recovery location (river)	Grilse recoveries 1973 No.	1973 % of total	1974 No.	1974 % of total	1975 No.	1975 % of total	1976 No.	1976 % of total	1977 No.	1977 % of total
Pabineau	0	0.0	0	0.0	2	6.3	0	0.0	0	0.0
Nepisiguit	0	0.0	0	0.0	1	3.1	0	0.0	0	0.0
Jacquet	0	0.0	0	0.0	4	12.5	2	4.8	0	0.0
Main Restigouche	2	40.0	3	30.0	10	31.3	12	28.6	11	52.4
Matapedia	1	20.0	3	30.0	4	12.5	8	19.1	1	4.8
Upsalquitch	1	20.0	1	10.0	7	21.9	10	23.8	6	28.6
Patapedia	0	0.0	2	20.0	0	0.0	0	0.0	1	4.8
Kedgwick	1	20.0	1	10.0	2	6.3	5	11.9	2	9.5
Little Main Restigouche	0	0.0	0	0.0	2	6.3	4	9.5	0	0.0
Unknown	0	0.0	0	0.0	0	0.0	1	2.4	0	0.0
Totals recaptured	5	100.0	10	100.0	32	100.0	42	100.0	21	100.0

APPENDIX A

HOME-WATER RECAPTURES OF LARGE SALMON TAGGED AND RELEASED IN THE RESTIGOUCHE RIVER SYSTEM

(2- and 3-sea-winter salmon, tagged and released at Dalhousie, New Brunswick, 1972-77; tag returns to January, 1981, by release and recapture dates, and by recapture location; all recaptured in ICNAF Div. 4T.)

Tag no.	Recapture data Date	Location
Main Restigouche River Recaptures		
(1972 releases)		
D65020	Aug 3/72	
D65023	Jun 28/72	Pine Island
D65033	Jun 24/72	Larry's Gulch
D65034	Jun 26/72	Toad Brook Lodge
D65042	Jul 2/72	Larry's Gulch
D65045	Jul 4/72	Pine Island
D65069	Jun 26/72	Toad Brook Lodge
D65099	Jun 27/72	
D65114	Jul 20/72	
D65116	Jun 25/72	Wheeler's Pool
D65122	Aug 6/72	Camp Silhouette
D65124	Jul 4/72	Red Bank, 20 miles up
D65131	Jul 7/72	
D65145	Aug 16/72	Larry's Gulch
D65151	Jul 4/72	Brunswick Lodge
D65156	Jun 25/72	
D65165	Jul 4/72	Indian House
D65166	Jul 4/72	Brunswick Lodge
D65170	Aug 2/72	
D65172	Jul 4/72	Red Pine Mountain Lodge
D65190	Jul 24/72	
D65192	Aug 16/72	Tom's Brook Lodge
D65201	Jul 14/72	Camp Silhouette
D65213	Jul 25/72	Larry's Gulch
D65253	Jul 13/72	Red Pine Mountain Lodge
D65262	Jul 9/72	Tide Head
D65288	Aug 3/72	
D65293	Jul 18/72	
D65313	Aug 8/72	Tom's Brook Lodge
D65318	Jul 26/72	Brandy Brook Lodge
D65323	Aug 4/72	
D65374	Aug 13/72	Toad Brook Lodge
D65381	Aug 19/72	Mouth of Upsalquitch River
D65385	Jul 29/72	Brandy Brook Lodge
D65391	Jul 22/72	Allan Run
D65395	Aug 12/72	Fence Pool
D65401	Jul 23/72	Grog Island Camp
D65409	Aug 3/72	Tom's Brook Lodge
D65418	Aug 15/72	Cross Point Pool
D65421	Jul 25/72	Larry's Gulch
D65426	Aug 12/72	Red Pine Mountain Lodge
D65443	Aug 16/72	Grog Island Camp
D65115	Aug 8/72	Stillwater Pool
D65089	Apr 4/73	Rafting Ground
D65162	Jun 17/73	
D65304	Aug 30/73	Morrissey Rock
D65429	Jun 2/73	3 mi below mouth of Upsalquitch River
D65079	Jul 24/74	England's Flats Lodge
D65333	Jul 6/74	Kedgwick Lodge
D65198	Jun 1/77	
(1973 releases)		
D65461	Jul 17/73	Silver Waters Camp
D65463	Jun 20/73	Walkers Island
D65482	Aug 29/73	Crown Reserve below Tracy Brook
D65487	Sep 5/73[1]	Brandy Brook Lodge
D65488	Jul 31/73	Kedgwick Lodge
D65530	Jul 25/73	Soldier's Pool
D65548	Aug 30/73	Below Morrissey Rock
D65550	Jun 20/73	Near Indian Reserve
D65552	Jun 22/73	Cheuter's Brook
D65553	Jun 25/73	Matapedia
D65556	Jun 30/73	Stillwater Pool
D65562	Aug 29/73	Morrissey Rock
D65575	Jun 28/73	Indian Reserve
D65587	Jun 23/73	Indian Reserve
D65589	Jul 8/73	Kedgwick Lodge
D65631	Jul ?/73	
D65642	Jul 10/73	
D65643	Jul 20/73	Matapedia Run
D65647	Jul 2/73	Slide Pool
00008	Jun 22/73	Larry's Gulch
00035	Jul 6/73	Kedgwick Lodge
00039	Jun 27/73	
00043	Jun 28/73	
00059	Jul 8/73	Kedgwick Lodge
00075	Jul 16/73	Blueberry Pool
00083	Aug 2/73	
00123	Jun 30/73	Indian Reserve
00136	Jul 15/73	Kedgwick Lodge
00144	Jul 12-14	Silver Waters Camp
00155	Aug 9/73	Larry's Gulch
00160	Jun 26/73	Matapedia
00226	?/73	Brandy Brook Lodge
00251	Jul ?/73	Duncan Run
00252	Aug 13/73	Kedgwick Lodge
00261	Jun 28/73	Matapedia
00277	Aug 21/73	Morrissey Rock
00298	Aug 24/73	
00205	Jun 28/73	Matapedia Run
00032	Aug 22/73	Patapedia Pool
D65585	Aug 21/74	4 mi above Matapedia
D65573	Jun 2/74	Flatlands
00131	Jun 14/75	Opposite Campbellton
00030	Jun 14/75	
(1974 releases)		
D65729	Jun 18/74	Camp Harmony
D65810	Jul 11/74	Cross Point Pool
D65882	Jul 13/74	Brandy Brook Pool
D65740	Jun 26/74	Grog Island Camp
D65793	Jun 26/74	Lower Crown Reserve
D65857	Jul ?/74	Camp Silhouette
D65957	Jul 20/74	Brandy Brook Lodge
D65931	Aug 27/74	Devils Half Acre Pool
D65803	Jun 25/74	Kedgwick Lodge

Tag no.	Recapture data	
	Date	Location
D65853	Aug 15/74	Brandy Brook Lodge
D65765	Jul 1/74	Cheuter's Brook
00320	Jul 22/74[1]	Medavids Pool
00339	Aug 1/74	Looking Glass Pool
00341	Aug 1/74	Tide Head
00405	Jul 15/74	Runnymede Lodge
00445	Jul ?/74	Camp Silhouette
00524	Jul 1/74	Camp Silhouette
00393	?/74	Downs Gulch
00400	Jul 4/74	
00493	Jul 22/74	Tide Head
00447	Aug 20/74	Brandy Brook Lodge
D65851	Jun 2/75	Grog Island Camp
D65773	Jul ?/75	Flatlands
00428	May 15/75	Rafting Ground
D65954	Jun 24/76	Morrissey Rock
00575	Jun 29/76	Morrissey Rock
00324	Aug 16/76	1 mi below mouth of Kedgwick River
00516	?/77	
	(1975 releases)	
D66068	Jul 1/75	Grog Island Camp
D66120	Jul 5/75	
D66260	Jul 12/75	Matapedia Run
D66046	Jun 27/75	Brandy Brook
D66257	Jul 17/75	
D66087	Jul 5/75	20 mi from Salt Water
D66050	Jul 19/75	
D66226	Jul 24/75	
D66475	Jul 22/75	Indian Reserve
D66458	?/75	Tide Head
D66356	?/75	
D66295	Jul 27/75	Flatlands
D66052	Jul 18/75	Red Pine Mountain Lodge
D66124	Jul ?/75	Flatlands
D66333	Jul 9/75	Duncan Pool
D66380	Jul 10/75	Red Pine Mountain Lodge
D66507	Jul 15/75	Red Pine Mountain Lodge
D66149	Jul 3/75	Rafting Ground
D66013	Jun 18/75	Flatlands
D66296	Jul ?/75	
00683	?/75	
00701	Jul 7/75	
00917	Jul 11/75	Morrissey Rock
00609	Jul 13/75	Larry's Gulch
00894	Jul 13-14/75	
00468	Jul 19/75	1 mi below mouth of Upsalquitch River
00843	Jul 16/75	Devils Half Acre Pool
00735	Jul 11/75	Brandy Brook Lodge
00925	Jul 23/75	
00768	Jul 24/75	Red Pine Mountain Lodge
00643	Aug 16/75	Kedgwick Lodge
00665	Jul ?/75	Flatlands
00727	Jul ?/75	Flatlands
00732	Jul ?/75	Flatlands
00974	Jul ?/75	Flatlands
00647	Jul 6/75	Between Tide Head and Flatlands
00685	Jul 6/75	
00770	Jul 6/75	
00831	Jul 16/75	
00671	Sep 7/75	
D66489	?/76	Near Tide Head
D66165	?/77	

Tag no.	Recapture data	
	Date	Location
	(1976 releases)	
D66671	Jul 29/76	
D66726	Jun 24/76	
D66740	Jun 27/76	
D66789	Jun ?/76	Flatlands
D66743	Jun 18/76[1]	Cross Point Reserve
D66810	Jun 26/76	Runnymede Lodge
D66714	Jul 5/76	
D66785	Jul 10/76	Tide Head
D66790	?/76	
D66828	Jul 7/76	Flatlands
D66903	Jul 12/76	Jimmy's Hole
D66919	Jul 26/76	Pine Island
D66960	?/76	Tide Head
D66973	?/76	Tide Head
01072	?/76	Near Tide Head
01187	Jul 18/76	No. 7 pool, Larry's Gulch
01330	Aug 1/76	
01401	Jul 26/76	
01088	Jul 22/76	Pine Island
01141	Jul 15/76	
01029	?/76	
01092	Jul 7/76	Flatlands
01127	?/76	
01169	?/76	Brandy Brook Lodge
01298	Jul 9/76	Point La Nim
01372	?/76	Brandy Brook Lodge
01258	?/76	Patapedia Pool
01354	Aug 18/76	
01138	Jul 31/76	Matapedia
01278	Aug 28/76	Devils Half Acre Pool
D66761	?/77	Flatlands
01345	Jul 22/77	
01447	?/77	
01031	?/77	Flatlands
01331	?/77	Flatlands
01459	?/77	
01247	?/78	Cross Point Reserve
01395	?/78	Cross Point Reserve
	(1977 releases)	
P55022	Jul 1/77	
P55035	Jun 13/77	
P55047	Jun 24/77	
P55067	Jul 10/77	
P55157	Jul 5 /77	
P55316	?/77	
P55327	Jul 12/77	Campbellton
P55016	Jul 4/77	Kedgwick
P55084	Aug 11/77	
P55191	Jul 29/77	
P55250	Jul 25/77	Silver Waters
P55330	Jul 12/77	
P55363	Jul 25/77	
P55306	Aug 30/77	Mouth of Kedgwick River
P55060	?/77	Flatlands
P55207	?/77	Flatlands
P55170	Jun 24/77	Heroes Rapids
P55227	?/77	
P55379	Jun 24/77	Rock Pool

Tag no.	Recapture data: Date	Location
Matapedia River Recaptures		
(1972 releases)		
D65044	Aug 3/72	
D65080	Jun 28/72[1]	
D65128	Aug 12/72	
D65143	Jul 21-31 /72	Milnikek Pool
D65183	Jul 25/72[1]	
D65207	Jul 21-31 /72	Island Tree Pool
D65210	Jul 20/72	Cold Spring Camp
D65216	Aug 4/72	
D65252	Jul 23/72	
D65308	Sep 14/72	Sainte Florence
D65362	Aug 13/72	
D65393	Aug 15/72	Cold Spring Camp
D65406	Aug 15/72	Alice Pool
(1973 releases)		
D65503	Jul 18/73	Forks Pool
D65505	Jul 5/73	Causapscal
D65531	Jul 6/73	Upper Station
D65580	Jul 1/73	Milnikek Pool
D65661	Aug 3/73	Assemetquagan
D65677	Aug 3/73	Milnikek Pool
00002	Aug 5/73	Milnikek Pool
00048	Jul 1/73	MacDonald Zone
00050	Jul 10/73	Amqui
00062	Jul ?/73	
00073	?/73	
00223	Aug 25/73	Upper Fraser
00227	Jul 12/73	
00241	Jul 14/73	Upper Fraser
00286	Aug ?/73	Salmon Hole Rapids
00148	Jul 18/74	
00012	Aug 31/74	
D65493	Jul 12/75	
(1974 releases)		
D65915	Jul 13/74	Home Pool
D65784	Jul 9/74	No. 12 Home Pool
D65757	Jun 23/74	Tobique Salmon Club
D65722	Sep 9/74[1]	Causapscal River
D65876	Aug 12/74	Assemetquagan River
D65923	Aug 9/74	Johnson Pool
00420	Jul 12/74	Milnikek Pool
00307	Jul 22/74	Between Salmon and Monnick Pools
00311	Jul 22/74	
00321	Aug 14/74	
D65723	Sep 15/76	
(1975 releases)		
D66427	Jul 24/75	Three Island
D66048	Jul 31/75	
D66271	Aug 16/75	Haleys Pool
D66327	Jul 15/75	Tobique Salmon Club
D66520	Aug 4/75	
D66582	Aug 17/75	Mann's Pool
D66145	Aug 18/75	Glen Emma
00854	Jul 26/75	
00673	Jul 20/75	
01000	Jul 24/75	Three Island
00961	Jul 17/75	MacDonald Club
00613	Aug 22/75	Mann's Pool
00996	Aug 2/75	
00886	?/75	
(1976 releases)		
D66747	Jun 26/76	1.5 miles up
D66980	Jul 14/76	
D66687	Jul ?/76	
D66734	Jul 10/76	
D66829	Jul 15/76	Club Glen Emma MacDonald
D66953	Jul 21/76	Mann's Pool
D66853	Jul ?/76	Salmon Hole
01056	Jul 29/76	Club Glen Emma MacDonald
01263	Aug 8/76	5 miles up
01335	Jul 29/76	
01251	Aug 8/76	
01455	Jul 26/76	
01103	Jul 12/76	17 miles up
01431	Aug 7/78	
(1977 releases)		
P55124	Jul 21/77	
P55367	Jul 13/77	
P55055	Aug 3/77	Amqui
P55261	Jul 14/77	Mann's Pool
P55013	Jul 14/77	
P55063	Jun 27/77	Lower Fraser Pool
P55202	Jul 26/77	
Upsalquitch River Recaptures		
(1972 releases)		
D65149	Jul 2/72	
D65203	Jul 10/72	4 miles up
(1973 releases)		
D65481	Jul 9/73	Crooked Rapids
D65554	Aug 24/73	
D65640	Aug 19/73	
00219	Aug 14/73	Island Pool
00126	Jun 29/73	
00138	Jul 10/73	
00264	Jul 11/73	Crooked Rapids
(1974 releases)		
D65824	Jul 14-15	
D65855	Jul 1/74	Two Mile Brook
00316	Jul 2/74	10 miles up
00352	Jul 6/74	Forks Pool
00379	Jul 9/74	Berry Brook Pool
00353	Jul ?/74	
00482	Jul 14-15 /74	
00529	Jul 28/74	Boland Brook Lodge
00561	Jul 14-15 /74	
00474	Jul 30/74	Upper 9-Mile Pool, Northwest Upsalquitch River
00366	Jul 18/74	
(1975 releases)		
D66128	Jun 25/75	Two Rock
D66288	Jul 15/75	
D66450	Aug 16/75	Upper 9-Mile Pool, Northwest Upsalquitch River
D66242	Jul 22/75	Robinsonville

Tag no.	Recapture data	
	Date	Location
D66238	?/75	Northwest Upsalquitch River
00644	Jul 14/75	7 miles up
00691	Jul 21/75	Boland Brook Lodge
00642	Jul 22/75	8 miles up
	(1976 releases)	
D66837	Aug 13/76	Island Pool
D66684	Jun 27/76	
D66690	Jul 20/76	
D66730	Jul 14/76	Boland Brook Lodge
D66736	Jun 27/76	
01262	Jul 23/76	
01091	Jul 12/76	
01140	Aug 19/76	
01167	Aug 24/76	
D66937	Aug 23/76	Island Pool
	(1977 releases)	
P55048	?/77	Camp Harmony
P55154	Jul 3/77	
P55147	Aug 2/77	
P55300	Aug 2/77	Boland Brook Lodge
P55317	Aug 2/77	
P55189	Jul ?/77	
P55088	Jul 5/77	Englehart's Pool
P55193	Jul 16/77	Two Brooks Lodge

Kedgwick River Recaptures

	(1972 releases)	
D65001	Jul 14/72	Frasers Lodge
D65011	Jul 14/72	Frasers Lodge
D65027	Jun 26/72	Quebec section
D65040	Jun 26/72	Frasers Lodge
D65088	Aug 19/72	Frasers Lodge
D65212	Jul 18/72	Frasers Lodge
D65051	Jun 21/74	Frasers Lodge
	(1973 releases)	
D65452	Jul 4/73	
D65480	Aug 11/73	Frasers Lodge
D65499	Jul 3/73	Frasers Lodge
D65591	Aug 11/73	Frasers Lodge
D65603	Aug 2/73	Campbell's Pool
D65609	Aug 23/73	Frasers Lodge
D65618	Aug 23/73	
D65622	Aug ?/73	
D65666	Aug 7/73	Frasers Lodge
D65668	Aug ?/73	
00098	Jul 21/73	
00129	Aug 5/73	Meadow Pool
00230	Jul 28/73	Frasers Lodge
D65557	Jul 12/75	Frasers Lodge
	(1974 releases)	
D65776	Jul ?/74	Club LeChasseur
	(1975 releases)	
D66041	Jun 28/75	Frasers Lodge
D66130	Aug 4/75	Frasers Lodge
D66276	Aug 4/75	Frasers Lodge
D66366	?/75	Carter Hall

Tag no.	Recapture data	
	Date	Location
00809	Aug 20/75	Frasers Lodge
	(1976 releases)	
D66672	Jul 8/76	Frasers Lodge
	(1977 releases)	
P55132	Jul 14/77	

Patapedia River Recaptures

	(1972 releases)	
D65052	Aug 4/72	
D65057	Jul 6/72	13 miles up
D65072	Jul 4/72	
	(1973 releases)	
00143	Jul 8/73	
00234	Jul 14/73	
	(1974 releases)	
D65827	Jul 8/74	Swimming Hole
D65737	Jul 10/74	
	(1975 releases)	
D66066	Jul 2/75	Hewitt Pool
	(1976 releases)	
D66658	Jun 28/76	Upper Mile Pool
	(1977 releases)	
P55072	Jul 13/77	Goodrich Pool

Little Main Restigouche River Recaptures

	(1972 releases)	
D65071	Jul 9/72	
D65173	Jul 15/72	Crown Reserve, 4 miles up
D65205	Jul 28/72	
	(1973 releases)	
D65542	Jul 11/73	
00153	Jul 8/73	Boston Brook Lodge
00212	Aug 8/73	
	(1974 releases)	
D65838	Jul 2/74	4 miles up
	(1975 releases)	
D66024	?/75	
00774	Aug 24/75	
00885	Aug 23/75	

Tag no.	Recapture data: Date	Location
Restigouche Estuary Recaptures		
(1972 releases)		
D65164	Jun 23/72	St. Omer-meshed
D65160	Jun 19/74	Bon Ami Rocks-released
(1973 releases)		
D65453	?/73	St. Omer-released Nov 7/73
D65469	Jun ?/73	Carleton
00010	?/73	St. Omer-released Nov 7/73
00250	?/73	St. Omer-released Nov 14/73
(1974 releases)		
00467	Sep 10/74	Eel River Bar
00553	Sep 12/74	Eel River Bar
00303	?/74	Off mouth of Cascapedia River-died
00318	?/74	Off mouth of Cascapedia River-died
00441	Nov ?/74	Maria, off mouth of Cascapedia River-released
(1975 releases)		
D66626	Aug 6/75	Shigawake
D66628	Sep 13/75	Salmon Beach
(1976 releases)		
D66757	Jun 23/76	Carleton
01180	Jun 30/76	2 miles from Black Cape
Unknown Location Recaptures		
(1972 releases)		
D65133	Jul 29/72[1]	
(1974 releases)		
00584	?/74	
(1975 releases)		
D66232	?/75	
D66240	?/75	
D66241	?/75	
00623	?/75	
00800	?/76	
(1976 releases)		
D66982	?/76	
D66661	?/76	
(1977 releases)		
P55401	?/77	

Tag no.	Recapture data: Date	Location
Gaspé, Quebec, Recaptures		
(1972 releases)		
D65431	Jul 14/74	Grand Cascapedia River
(1973 releases)		
D65710	Aug 21/73	Bonaventure River, 15 miles up
00157	Jul 27/73	Bonaventure River, 15 miles up
(1975 releases)		
D66111	Jul 2/75	Grand Cascapedia River
D66400	Jul 24/75	Grand Cascapedia River, Horse Island Camp
D66253	Jul 17-18/75	Grand Cascapedia River
(1976 releases)		
D66774	Jun 21/76	Grand Cascapedia River
01226	Jul 24/76	Grand Cascapedia River
(1977 releases)		
01468	Jun 21/78	Newport
Other Chaleur Bay River Recaptures		
(1974 releases)		
00347	Oct 10/74	Jacquet River
00557	May 1/75	Jacquet River, Highway Bridge
(1975 releases)		
D66601	Sep 30/75	Jacquet River
D66619	Oct 11/75	Jacquet River
D66179	Oct 12/75	Jacquet River
D66604	Sep 6/75	Jacquet River
00926	?/75	Jacquet River
00704	Sep 3/75	Jacquet River
(1976 releases)		
01197	Aug 5-7/76	Jacquet River
01449	Aug 24/76	Jacquet River, Longhole
01437	Aug 21/76	Charlo River
(1977 releases)		
01527	?/77	Jacquet River
01575	Oct 6/77	Jacquet River

[1]Letter date - actual recovery date not specified.

APPENDIX B

DISTANT-WATER RECAPTURES OF LARGE SALMON TAGGED AND RELEASED IN THE RESTIGOUCHE RIVER SYSTEM

(2- and 3-sea-winter salmon, tagged and released at Dalhousie, New Brunswick, 1972-77; tag returns to January, 1981, by release and recapture dates, and by recapture locations.)

Tag no.	Recapture data: Date	Recapture data: Location	Statistical Location
North Shore, Quebec Recaptures			ICNAF Div.
(1972 releases)			
D65307	Jul 1/73	Sand Sportage Island, off St. Augustine River	4S
D65337	Jul 10/73	Bradore Bay, West of Blanc Sablon	4S
D65414	Jul 9/73[1]	La Tabatiere, near Mutton Bay	4S
D65430	Jul 14/73[1]	St. Augustine River	4S
D65225	Jul 2/75	Mussel Island, Bradore Bay	4S
(1973 releases)			
00258	Jul 15/74	St. Paul River	4S
(1974 releases)			
00531	Jul 7/75	Duplessis County	4S
(1975 releases)			
00658	Jul 28/77	Bradore Bay	4S
Newfoundland (Labrador) Recaptures			Nfld. Fisheries Statistical Dist.
(1972 releases)			
D65200	Oct 24/73[1]	Nain	053
(1973 releases)			
D65515	?/78	Petty Harbour	051
(1974 releases)			
00364	Aug 13/75	Nain	053
00470	Aug/75	Capstan Island	050
00485	Jul 18/75	Red Bay	050
D65959	Jul 19/76	?, Labrador	0?
(1975 releases)			
D66235	Jul 13/76	Fishing Ships Harbour	051
D66524	Jul 30/76	Ship Harbour	051
D66621	?/76	Snug Harbour	051
00904	Aug 7/76	Hopedale	053
00963	Jul 15/76	St. Lewis Bay, Fox Harbour	051
00970	Jul 5/76	Ship Harbour Head	051
(1976 releases)			
D66936	Jul 22/77	Frenchmans Island	051
01376	Jul/77	Williams Harbour, Granby Island	051
(1977 releases)			
P55052	Jul 25/78	St. Lewis	051

Tag no.	Recapture data: Date	Recapture data: Location	Statistical Location
Newfoundland (Island) Recaptures			**Nfld. Fisheries Statistical Dist.**
(1973 releases)			
00282	May 28/75	Renews, South Shore	F26
(1974 releases)			
D65881	Jul 10/75	Goose Cove, White Bay	A02
00452	Jul 7/75	St. Lunaire	A02
D65909	Jun 9/76	Northeast of Coachman's Cove	A05
00368	May 24/76	Northern Bay	E20
(1975 releases)			
D66112	Jul 16/76	Plum Point	N49
D66113	Jul 27/76	Goose Cove	A02
00878	Jun 4/77	Ming's Bight	A05
D66634	Jun 15/78	St. David's	K40
(1977 releases)			
P55135	Jun 6/78	Brig Bay	N49
P55148	Jul 15/78	Cremaillere Harbour	A02
Greenland Recaptures			**ICNAF Div.**
(1972 releases)			
D65295	Sep 17/73	West Greenland	1B
(1975 releases)			
D66552	Jul 23/76	Napassoq	1C
Nova Scotia Recaptures			**ICNAF Div.**
(1972 releases)			
D65180	Jun 16/74	Louisburg	4Vn
New Brunswick Recaptures			**ICNAF Div.**
(1975 releases)			
D66563	Apr 21/76	Southwest Miramichi, near Cains River	4T
(1976 releases)			
01093	Aug 1/76	Cains River, Miramichi River system	4T

[1]Letter date - actual recovery date not specified.

APPENDIX C

HOME-WATER RECAPTURES OF GRILSE TAGGED AND RELEASED IN THE RESTIGOUCHE RIVER SYSTEM

(1-sea-winter fish, tagged and released at Dalhousie, New Brunswick, 1973-77; tag returns to January, 1981, by release and recapture dates, and by recapture location; all recaptured in ICNAF Div. 4T.)

Tag no.	Recapture data: Date	Location
Main Restigouche River Recaptures		
(1973 releases)		
A5027	Oct 10/73	Flatlands
A5031	Aug 29/73	Crown Reserve, below Tracy Brook
(1974 releases)		
A5076	Jul 24/74	Matapedia
A5136	Aug 1/74	Brandy Brook
A5065	Jul 18/74	Pine Island
(1975 releases)		
A5282	Jul 9/75	Stewart's Beach, Tide Head
A5441	?/75	Morrissey Rock
A5353	Jul 19/75	
A5677	Aug 1/75	Brandy Brook Lodge
A5519	Jul 30/75	Brandy Brook Lodge
A5573	Jul 31/75	Brandy Brook Lodge
A5175	Jul ?/75	Flatlands
A5315	Aug 18/75	Soldiers Pool
A5546	Jul ?/75	Flatlands
A5633	Aug 12/75	Matapedia Run
A5742	Jul 20/75	Morrissey Rock
(1976 releases)		
A5908	Jul ?/76	Mouth of Kedgwick River
A6027	Jul 31/76	No. 1 pool, Larry's Gulch
A6112	Jul 30/76	Matapedia
A6013	Jul 12/76	Home pool, Brandy Brook Lodge
A6033	?/76	
A6036	Aug 30/76	
A6063	Jul 20/76	Pine Island
A6122	Aug 5/76	Matapedia
A6212	Aug 31/76	Mouth of Little Main Restigouche River
A6229	Aug 31/76	
A6285	Aug 19/76	Mouth of Little Main Restigouche River
A5902	?/76	Flatlands
A6209	Aug 2/76	Cross Point Indian Reserve
A6291	Jun 14/77	
A6157	?/77	Flatlands
A6117	Jun 5/77	
(1977 releases)		
A6423	Jul 23/77	
A6308	Jul 26/77	
A6317	Jul 25/77	
A6349	Jul 27/77	
A6358	Jul 15/77	Brandy Brook Lodge
A6372	Aug 9/77	Jct. Little Main Restigouche River & Kedgwick River
A6412	Jun 19/77	
A6440	Jul 30/77	Larry's Gulch
A6497	Jul 19/77	
A6512	Aug 7/77	Larry's Gulch
A6330	?/77	Brandy Brook
Matapedia River Recaptures		
(1973 releases)		
A5034	Aug 4/73	Mann's
(1974 releases)		
A5088	Jul 21/74	Middle Fraser Pool
A5075	Aug 28/74	
A5094	?/74	
(1975 releases)		
A5233	Jul 14/75	
A5359	Jul 7/75	Rivière Assemetquagan
A5711	Jul 30/75	Tobique Salmon Club
A5717	July 31/75	
A5223	Jul 29/76	Sainte-Florence
(1976 releases)		
A5982	Jul 6/76	Club Glen Emma MacDonald
A6219	Aug 2/76	
A5879	Aug 15/76	
A5917	Jul 23/76	
A6020	Aug 20/76	
A6066	Aug 19/76	
A5940	Jul 26/76	
A6203	Aug ?/76	Cold Springs Camp
(1977 releases)		
A6480	Jul 26/77	
Upsalquitch River Recaptures		
(1973 releases)		
A5045	Aug 16/73	7 mi. up Northwest Upsalquitch River
(1974 releases)		
A5122	Jul 8/74	Boland Brook Lodge, 11 mi. up

Tag no.	Recapture data: Date	Location
(1975 releases)		
A5443	Jul 16/75	
A5494	Jul 27/75	
A5642	Aug 5/75	8 mi. up
A5222	Jul 30/75	Lower Nine-Mile Pool, Northwest Upsalquitch River
A5660	Aug 22/75	Boland Brook Lodge
A5779	Aug 23/75	Boland Brook Lodge
A5284	Jul 22/75	Forks Pool
(1976 releases)		
A6018	Aug 12/76	Forks Pool
A6093	Aug 1/76	Boland Brook Lodge
A6188	Aug 8/76	Boland Brook Lodge
A5896	Jul 16/76	Ellsworth Pool, 7 mi. up
A6186	Aug 6/76	Englehart's
A6281	Aug 24/76	Boland Brook Lodge
A6110	Aug 9/76	Forks Pool
A5870	Jul 24/76	
A6120	Aug 12/76	
A6024	Jul 24/76	Forks Pool
(1977 releases)		
A6426	Jul 23/77	
A6385	Jul 29/77	Blacks Camp
A6402	Aug 11/77	Northwest Upsalquitch River
A6454	Aug 24/77	Boland Brook Lodge
A6482	Aug 23/77	
A6325	Aug 18/77	Ten-Mile Pool, Northwest Upsalquitch River
Kedgwick River Recaptures		
(1973 releases)		
A5022	Aug 23/73	
(1974 releases)		
A5118	?/74	
(1975 releases)		
A5255	Jul 16/75	Fraser's Lodge
A5542	Aug 2/75	Fraser's Lodge
(1976 releases)		
A5954	Aug 23/76	Fraser's Lodge
A6079	Aug 21/76	Barn Pool
A6161	Aug 18/76	
A6177	Aug 28/76	Fraser's Lodge
A5860	Aug 21/76	Fraser's Lodge
(1977 releases)		
A6297	Jun 16/77	
A6326	Jul 27/77	

Tag no.	Recapture data: Date	Location
Patapedia River Recaptures		
(1974 releases)		
A5089	Aug 4/74	
A5095	Aug 7/74	
(1977 releases)		
A6353	Aug 17/77	
Little Main Restigouche River Recaptures		
(1975 releases)		
A5231	?/75	
A5549	Aug 16/75	
(1976 releases)		
A5895	?/76	
A5949	Aug 14/76	Boston Brook Lodge
A6103	Aug 11/76	Boston Brook Lodge
A6115	Aug 9/76	Boston Brook Lodge
Other Chaleur Bay Rivers Recaptures		
(1975 releases)		
A5673	Sep 8/75	Jacquet River
A5561	Sep ?/75	Jacquet River
A5851	?/75	Jacquet River
A5844	Oct 10/75	Jacquet River
A5743	Aug 23/75	Nepisiguit River
A5816	Sep ?/75	Pabineau River
A5848	Sep ?/75	Pabineau River
A5698	Jul ?/77	Caplan, Quebec
(1976 releases)		
A5941	Aug 5-7/76	Jacquet River
A6283	Aug 20/76	Jacquet River
A6270	Aug 16/76	Petit Rocher
A6154	?/76	Unknown
(1977 releases)		
A6524	?/77	Belledune
A6316	?/77	Chaleur Bay
A6478	?/77	Chaleur Bay

APPENDIX D

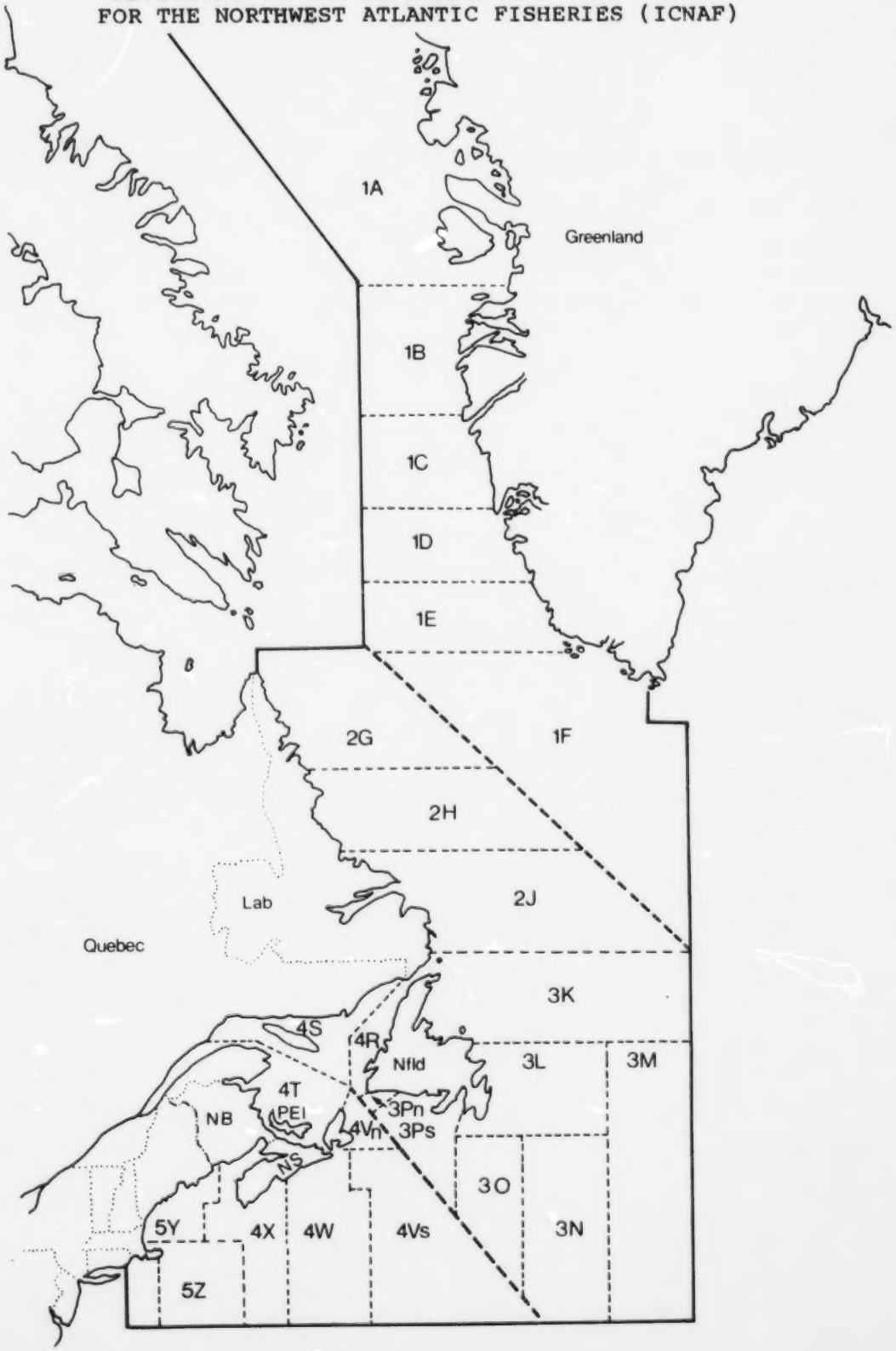
DISTANT-WATER RECAPTURES OF GRILSE TAGGED AND RELEASED IN THE RESTIGOUCHE RIVER SYSTEM

(1-sea-winter fish, tagged and released at Dalhousie, New Brunswick, 1973-77; tag returns to January, 1981, by release and recapture dates, and by recapture locations.)

Tag no.	Recapture data: Date	Recapture data: Location	Statistical Location
North Shore, Quebec Recaptures			ICNAF Div.
(1974 releases)			
A5052	Jul 15/75	St. Paul River	4S
(1975 releases)			
A5661	Jul 19/76	Unknown	4S
(1976 releases)			
A6072	Jul 12/77	Wakeham Island, St. Augustine River	4S
Newfoundland (Labrador) Recaptures			Nfld. Fisheries Statistical Dist.
(1974 releases)			
A5132	Jul 16/76	?, Labrador	O?
(1976 releases)			
A6217	Jul 20/77	?, Labrador	O?
A5881	Jul 30/77	Frenchmans Island, Seal Island	O51
A6022	Jul 13/77	Barge Bay Point	O50
A6111	Jul 25/77	East of Red Bay	O50
A6141	?/77	St. Lewis	O51
A6199	Jul 25/77	Fox Harbour	O51
A6151	Jul 18/77	Ste. Modeste	O50
(1977 releases)			
A6380	Sep 9/78	Nain	O53
Newfoundland (Island) Recaptures			Nfld. Fisheries Statistical Dist.
(1973 releases)			
A5000	May 27/75	Conception Bay	E22
(1975 releases)			
A5683	Jun 5/76	Burnside	C11
A5847	Jul 5/77	St. Anthony	A02

APPENDIX E

DIVISIONS OF THE INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES (ICNAF)



APPENDIX F

NEWFOUNDLAND FISHERIES STATISTICAL DISTRICTS